

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1. (currently amended) A three-piece golf ball comprising:

a polyurethane cover, having a Shore D hardness in the range of about 46 Shore D to about 54 Shore D, formed from a reaction of a diisocyanate, a polyol and a blend of curatives, wherein the curatives are selected from the group consisting of diamines, polyols, or blends thereof, wherein the polyurethane reaction has a pot life of approximately 40-70 seconds;

~~a core comprising a center and a thread-windings layer over the center, wherein said center has a weight of about between 17 grams to 19 grams, and wherein said thread windings layer has an unstressed thread dimension of about 0.020 inches to 0.028 inches by 1/16 of an inch, and has a Swartz modulus between 160 to 240 p.s.i.;~~

~~a cover having a Shore D hardness in the range of about 46 Shore D to about 54 Shore D; and~~

an outer surface divided into a plurality of polygonal configurations, ~~which include pentagons, squares and triangles;~~ and

a plurality of dimples arranged on the outer surface, ~~with a first pattern of dimples associated with each triangle, a second pattern of dimples associated with each pentagon, and a third pattern of dimples associated with each square.~~

Claim 2. (currently amended) The ball of claim 1 wherein the diisocyanate is bonded to a benzene ring ~~center has a diameter in the range of about 1.00 inches to about 1.25 inches.~~

Claim 3. (currently amended) The ball of claim ~~[[2]]~~ 1 wherein the layer is a winding of threads ~~in said thread windings layer~~ are wound at a tension from ~~in the range of~~ about 700 grams tension to about 950 grams.

Claim 4. (original) The ball of claim 3 wherein the threads in said thread windings layer are wound in an open great circle pattern.

Claim 5. (original) The ball of claim 4 wherein the thread windings layer has a thickness of about 0.20 inches to 0.26 inches.

Claim 6. (original) The ball of claim 5 wherein the cover has a thickness of about 0.065 inches to 0.015 inches.

Claim 7. (original) The golf ball of claim 6 wherein said outer surface is divided into a polyhedron defined as a rhombicosadodecahedron.

Claim 8-9 (canceled)

Claim 10. (original) The golf ball of claim 9 wherein said dimples have a range of depth from about 0.0082 inches to 0.0074 inches.

Claim 11. (original) The golf ball of claim 10 wherein the ball has a compression in the range of about 70 PGA to about 100 PGA.

Claim 12. (original) The golf ball of claim 6 further comprising fifteen parting lines along great circle paths for further dividing said outer surface, said parting lines combining to essentially divide each pentagon into ten smaller triangles of equal size, each triangle into six triangles of equal size and each square into four smaller squares of equal size to obtain an outer surface consisting of smaller triangles and squares.

Claim 13. (original) The golf ball of claim 1 further comprising a first set of dimples, with each dimple in the first set having a first size;

a second set of dimples, with each dimple in the second set having a second size; and

a third set of dimples, with each dimple in the third set having a third size, wherein the plurality of dimples are selected from the first set of dimples, the second set of dimples, and the third set of dimples.

Claim 14. (original) The golf ball of claim 13 wherein said first set of dimples has a diameter in the range of about 0.154 inches to about 0.158 inches.

Claim 15. (original) The golf ball of claim 14 wherein said second set of dimples has a diameter in the range of about 0.142 inches to about 0.147 inches.

Claim 16. (original) The golf ball of claim 15 wherein said third set of dimples has a diameter in the range of about 0.140 inches to about 0.144 inches.

Claims 17-19 (canceled)

Claim 20. (original) The golf ball of claim 1 further comprising:

two poles,
an uninterrupted equatorial great circle path defining a mold parting line symmetrically positioned with respect to said two poles on said outer surface; and
a pair of first polygonal configurations each being located on opposite sides of said outer surface to include one of said two poles symmetrically arranged within its boundaries.

Claim 21. (canceled)

Claim 22. (currently amended) The golf ball of claim [[21]]
1 wherein the diisocyanate is selected from the group
consisting of toluene diisocyanate, 4,4'-diphenylmethane
diisocyanate, Isophorone diisocyanate and any mixtures
thereof.

Claim 23. (original) The ball of claim 22 wherein the
polyol is an ether glycol.

Claim 24. (original) The ball of claim 22 wherein the
polyol is polytetramethylene glycol.

Claim 25. (currently amended) The golf ball of claim 22
wherein one of the curing agents is ~~agent comprises a slow-~~
~~reacting diamine with~~ diethyl-2,4-toluenediamine.

Claim 26. (currently amended) The golf ball of claim 22
wherein the curing agent comprises dimethylthio-2,4-
toluenediamine ~~and a fast-reacting diamine.~~

Claim 27. (original) The golf ball of claim 21 wherein the
curing agent comprises a blend of dimethylthio-2,4-
toluenediamine and diethyl-2,4-toluenediamine.

Claim 28. (currently amended) The golf ball of claim 1 wherein the ~~thread-windings~~ layer is selected ~~[[made]]~~ from a group consisting of polyisoprene rubber and ~~[[or]]~~ natural rubber.

Claim 29-31. (canceled)

Claim 32. (currently amended) A method of preparing a golf ball comprising:

- a) providing a ~~liquid-filled~~ rubber center;
- b) freezing the rubber center;
- c) ~~wrapping~~ covering the frozen rubber center with ~~thread-windings in a layer having~~ an open great-circle pattern with a ~~thread~~ tension from about 700 grams to 950 grams to form a core, ~~to a thread-winding thickness of between 0.20 inches and 0.26 inches, wherein the thread windings have an unstressed thread dimension of about 1/16th of an inch width by about 0.020 inches to 0.028 inches height, a Swartz modulus between 160 to 240 p.s.i.;~~
- d) providing a thermoset polyurethane polymer mixture;
- e) pouring the polymer mixture into a first mold half and allowing the mixture to reach a semi-gelled state;
- f) pouring the polymer mixture into a second mold half and allowing the mixture to reach a semi-gelled state;

g) lowering the core ~~rubber center with thread windings~~ into the semi-gelled polymer mixture in the first mold half such that the ~~rubber center with thread windings~~ core is suspended in the semi-gelled polymer mixture;

h) allowing the semi-gelled polymer mixture to penetrate the openings in the layer ~~thread windings~~;

i) inverting the first mold half and mating it to the second mold half;

j) heating the mated first and second mold halves containing the polymer mixture and the core ~~rubber center with thread windings~~;

k) cooling the mated first and second mold halves containing the polymer mixture and the core ~~rubber center with thread windings~~; and

l) removing the molded golf ball from the first and second mold halves and allowing the golf ball to cure.

Claim 33. (new) A three-piece golf ball comprising:

a center;

a thread windings layer wound around the center in an open great circle pattern to produce a core;

a polyurethane cover wherein the polyurethane cover is produced from a reaction of a diisocyanate, a polyol and a curing agent blend comprising:

(1) a slower-reacting curative selected from the group consisting of hindered diamines and polyols;

(2) a faster-reacting curative wherein said fast-reacting diamine is unhindered, wherein the polyurethane cover has a semi-gelled state before curing; and,

a thread winding penetrant layer wherein the polyurethane cover, when in the semi-gelled state, penetrates the open great circle pattern of the thread windings layer; and,

a plurality of dimples arranged on the outer surface.

Claim 34. (new) The three-piece golf ball of claim 33 further comprising:

an outer surface divided into a plurality of polygonal configurations including pentagons, squares and triangles.

Claim 35. (new) The three-piece golf ball of claim 34 wherein the plurality of dimples are disposed in a uniform pattern within each of said plurality of polygonal configurations upon said cover.

Claim 36. (new) a method of producing a polyurethane covered golf ball comprising the steps of:

- providing a pair of mating mold halves;
- providing a core;
- providing a diisocyanate;
- providing a polyol;
- providing a blend of curatives;
- mixing the blend of curatives with the diisocyanate and the polyol to produce a thermoset polyurethane with a pot life of about 40-70 seconds;
- pouring the thermoset polyurethane into the first half of the mating mold halves;
- inserting a golf ball core into the first mold half containing the thermoset polyurethane;
- pouring the thermoset polyurethane into the second half of the mating mold halves;
- joining the mating mold halves so that the core is engulfed by the thermoset polyurethane;
- removing the thermoset polyurethane covered core to cure at room temperature.